

# Understanding Research Proposals

*By Charles R. Putney*

To most program planners, research proposals appear to be a breed unto themselves, with a structure and lingo all their own. And most grantseekers who write proposals for program support may believe that research grants are either beyond their reach or irrelevant to their concerns.

Research, however, isn't the exclusive province of scientists and academicians. In fact, almost every form of program planning involves some element of research. Experienced proposal writers know that in order to lay the groundwork for a solid program, they must thoroughly investigate precedents and examine models.

In addition, the evaluation process of most grant-funded programs reflects a "research" perspective in tracking what did or did not work. Complex federal program grants often include some aspects of research grants, calling for considerable data collection and analysis. The federal government also requires some grantees to participate in a common data collection system that allows the funding agency to carry out its own research into program effectiveness.

True research grants do demand a more rigorous analysis of quantitative values than most proposal writers may be accustomed to. They also require the compilation of more statistical data and more hard evidence. Knowledge of what others are doing, as reflected by citations from peer-reviewed journals instead of the popular press, is essential. But the principal difference between research proposals and program proposals is a matter of focus and intent rather than structure or logic.

Simply put, when the purpose of a grant is to learn something rather than to meet client needs or address a community problem, it is a research proposal and an appropriate format is needed. Thus, social service providers might use a research approach, if not a research format, for preparing a feasibility study. Local governments might use it to pursue a neighborhood needs assessment. Or a performing arts group might use it to propose a study to determine the relationship between audience preferences and market forces.

Funders themselves sometimes blur the distinction between research activities and program activities, and some government grantmakers support program activities with grants that look like they are directed toward

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research. Several competitions within the Department of Health and Human Services, for example, follow a Public Health Service grant format which was created for research but which has morphed into a quasi-programmatic format. One clue is that when the points allotted for the objectives section and the evaluation section combined equal at least 30% of the total points awarded, the grant competition is likely to require a strong research orientation.

Because research proposals are conceptually parallel in a number of ways to program proposals, looking at the two types together can make the shift easier to master.

All grant proposals require strong statements about the qualifications of the applicant. For program grants, the focus of this section what TGCI calls the "Introduction"—is almost always on the organization. The section introduces the applicant to the reviewer by describing the organization's ability to carry out the proposed program, including evidence of past successful programs, qualified staff, strong community links and similar indicators of organizational credibility and capacity.

Research proposals, on the other hand, focus not on the organization but on the qualifications of the person who will do the research, called the principal investigator, and his or her team. The gold standard for researcher qualifications is a track record of scholarly work. In the natural and social sciences, this generally means articles in peer-reviewed journals. In the humanities it could mean monographs, exhibitions mounted, or catalogs for exhibitions in museums or galleries. The National Institutes of Health provides a "biosketch" form on which the key personnel must be identified in a formal way with specific background information. Other agencies may ask for a short curriculum vitae.

While it helps (and is sometimes essential) for the principal investigator to be affiliated with an institution that is known for doing research, the institution's reputation will not compensate for weaknesses in the principal investigator's background.

In developing the problem statement for a program proposal, the writer is likely to begin by describing a specific issue and how it affects a specific population. For example, "Too many seventh- and eighth-grade youth in Littletown use alcohol on a regular basis." Ideally, the dimensions of the problem will be measurable. How many seventh- and eighth-graders are regularly using alcohol? What percentage of all seventh- and eighth-graders

in town does this number represent?

For a researcher, the goal is more likely to be discovering why alcohol abuse among seventh- and eighth-graders is occurring. This "question" might be: "What factors influence whether a seventh- or eighth-grade youngster in a rural community begins to use alcohol regularly? What factors affect this behavior?"

Both program grants and research grants require that the proposal describe the importance of the proposed project. In research parlance, this is the project's "significance." Why does it matter that seventh- and eighth-graders are drinking? Proposing research that simply answers an unanswered question leads nowhere for most reviewers. If no one cares about answering the question, the question is not worth pursuing in a competitive environment, and thus not worth funding.

For most research grants, "significance" alone is insufficient. The proposal must also show how answering the specific question posed in the proposal will contribute to an eventual solution, in this case contributing to the design of effective prevention programs. The researcher must convince a reviewer that investigating the question will contribute both to the field (alcohol abuse prevention, cancer research, aesthetics) and to the larger common good. Last and certainly not least, the question must be intellectually interesting to the experts evaluating the proposal. (The ideal response of the reviewer is, "Gee, I wish I'd thought of that.")

Sometimes, research funders will issue requests for proposals (RFPs), stating what they want to know and why they want to know it. That is, they will define both the core question and its significance. A federal agency, for example, might be looking for ways to reduce head injuries among youth riding bikes. If an organization with expertise in injury prevention were to apply for such a grant, it would need to demonstrate that the problem in the area where it proposes to conduct its research (and, perhaps carry out a pilot prevention program) is representative of what is happening in other communities. The funder frames the question and describes the significance; the applicant documents that it has an appropriate population to study, that it understands the full implications of the question, and that it is able to perform the research competently.

In program proposals, an objective is likely to be described as a discernable change in the behavior of a population, or in indicators of the problem as measured over a specific time period (e.g., a 20% decrease in the use of

alcohol by seventh- and eighth-graders at Littleton Junior High during the 24-month grant period, as measured by the Youth Risk Behavior Survey). In a research proposal, the objective is more likely to be discovering why those kids are consuming alcohol in the first place. What are the specific factors that lead to this behavior?

Often, a hypothesis will be broached in order to frame the question more precisely or to determine whether there is some sort of cause-effect relationship at work (e.g., "Does parental behavior affect youth behavior with respect to alcohol consumption?").

A researcher might hypothesize that "seventh- and eighth-grade students whose parents are binge drinkers are more likely to binge when attending a party where alcohol is served than are their counterparts whose parents drink, but do not binge drink." Perhaps the parents' behavior influences the child's behavior; perhaps it does not. Testing the hypothesis can lead to a clearer understanding of the factors that put a youngster at risk for early alcohol use and, in particular, binge drinking. Zeroing in on the specific factors that influence early alcohol use becomes a critical part of designing programs to reduce the likelihood that youth will drink.

For both research grants and program grants, the proposal writer must describe a methodology for achieving the objectives. In a research proposal, that requires both a research design and a process for implementing the design. The researcher explains the overall process for conducting the research and offers a persuasive rationale for that process, invoking citations from the research literature. Reviewers will ask whether the proposed design is feasible and whether it will lead to a satisfactory answer to the question. Designs that are overly ambitious or that include previously untested processes will not pass muster, unless the use of untested processes is a part of the research design and is defended as such. Methods that are too broad or appear to be "fishing expeditions" will also be downgraded by readers.

The design section is generally followed by a discussion of how the design will be carried out: who will do what, when and how. Whenever the method involves individuals at other organizations or institutions, their qualifications will need to be discussed. If they are "subcontracting" to do some work (such as interviewing), expertise in that work will be necessary. If those other individuals are "collaborating" in the design of the project, a description of their credentials will be required as part of the "key personnel" section.

Research proposals and program proposals share the need for a summary or abstract statement at the beginning of the proposal. As with all grant proposals, it's important to follow instructions for this front piece with respect to length and components. While program grants generally require full summaries that include a succinct statement of all the key elements, some research grants exclude discussion of the method in the abstract, preferring to focus on the question and significance.

Research proposals also include a budget and budget justification at the end, with the same level of detail required as that for any good program proposal.

Research proposals generally do not include the standard "evaluation" section, since that is already a part of the research process.

Research proposals do have some other components that are absent from all but the most detailed program proposals. These include:

When framing the question, describing its significance, and designing a method, the researcher is obliged to create a context based on what other researchers have already learned. A survey of the literature (almost always from peer-reviewed publications) ensures that the proposed project has been formulated with an understanding of relevant precedents. It also ensures that the project will not address research questions that have already been satisfactorily answered (although some research does question "conventional wisdom," but only with adequate preliminary reasons for doing so, again with reference to the literature). To present such a literature review, research proposals usually include a separate section covering the most recent and most pertinent research in the field.

Of course, program proposal writers also refer to precedents and models, but the references are less commonly collected into a designated section. (Program proposals with strong scientific components, such as certain HHS proposals, are an exception). In applying for any grant, demonstrating an awareness of what else is going on in the field is important; in applying for research grants, it is imperative.

Applicants for research grants must document what equipment and other resources are available to carry out the proposed project. For social science or clinical science projects, this may include the availability of an adequate number of appropriate subjects to study. The researcher must also document that institutional safeguards are in place, such as protocols on the use of human subjects or vertebrate animals. Often the grant proposal must be

accompanied by a letter of commitment from the institution, assuring the funder that these resources are in fact available to the researcher.

Research proposals do not generally include a section devoted to future funding, but they do require a discussion of how the research will lead to further investigation. This may be a separate section or it may be woven into the statement on the question or significance. In addition, research proposals often include a section that describes the process for disseminating the information learned from the research. Usually that means journal articles, but it could also mean conference presentations, workshops for teachers, programs for undergraduates, and the like.

Because most research grants seem to be highly technical in nature, the writers of research proposals often feel impelled to use dense language and arcane terminology. That's as much a mistake in research proposals as it is in program proposals. Most funders' guidelines emphasize the need for clear, direct language in research proposals, just as in program proposals. The initial reviewers of a research proposal may be generalists rather than experts in a specific sub-specialty, and they are likely to be put off by inflated or needlessly complex language. Abstracts, especially, must be understandable to a non-specialist. (The National Science Foundation says that they should be directed to a "scientifically literate lay reader.")

Often the reviewers for a particular research proposal will be chosen based on the proposal title and a preliminary reading of the abstract. If that first non-specialist reader does not grasp the full implications of the proposal right away, the proposal could be sent to the wrong people for review.

The statement of significance must also be understood by a broader audience. In review panels of the National Institutes of Health (which often have 25 or more members), most of the panelists voting on the proposal will read no more than the title, abstract and significance statements. Then they will consider the in-depth review by one or two experts who know the specialty area of the proposal. If the title, abstract and significance statement are not immediately clear to the entire panel, the proposal will have trouble winning support.

Applying the principles of writing strong research proposals can help enhance many program proposals. This is especially true when dealing with the evaluation section of a proposal. It is always important to look at the evaluation process and ask:

- Does our evaluation plan really tell us what we want to know?
- Are there variables beyond our control that will affect our results?
- When we get to the end of this process, what will we know that we didn't know before?
- Is there other information we can collect that will help us do a better job of serving our clients and prepare us for developing future programs?

Clearly measurable objectives, careful data collection processes, and appropriate analysis will bolster a reviewer's confidence not just in your ability to evaluate a program, but in your ability to conduct it as well.

The research approach also has implications for writing a problem statement and for designing a method. A problem statement is always stronger when it is supported by well-researched data and when it reflects a thoughtful interpretation of that data. A program that is developed with an awareness of contexts, models, and precedents has far greater appeal than one that looks as if it was developed in a vacuum.

Similarly, applying research done by others when designing a method leads to a stronger program plan. Citing examples of other programs, and recognizing what has made them successful or unsuccessful, gives assurance that the proposed project is realistic and that it is likely to produce the desired results.

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